Mustang™ Series
XEL-051R LED Driver Family

5~55W, 1% Dimming, Programmable Driver

Nominal Input Voltage (Vin)	Family Output Power Range (W)	Output Voltage Range (Vout)	Output Current Range (A)	Efficiency (%)	UL Max Case Temp. TC (°C)	THD (%)	Power Factor	Dimming Method	Dimming Range (%)
120~277Vac	5~55W MAX	20~51Vdc	0.11~1.40A	87~84% (typical)	90°C	< 20%	> 0.9	0-10V (Isolated Sink / Source)	1-100% (% of Iout)

Values listed above are a summary of product family data. For exact values see operational performance charts.

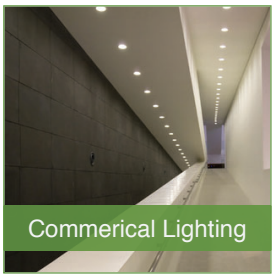
- **Driver Optimized for COB Based Designs**
- **Ideal for Recessed & Down Lighting**
- **1% Dimming with Dim-to-Off or Continuous Mode**
- **Programmable Via NFC**
- **Universal AC input (108~305Vac)**
- **Enables DLC compliant fixtures**
- Turn on/off in less than 500 miliseconds
- Built-in Commercial grade Surge Protection
- Integrated over voltage & open load, over current, short circuit & temperature protection
- Turn on & Full power operation between -30°C to +55°C ambient[1]
- 5 Year Warranty[2]
- Serial Port Model supports Live Configuration, Control & Reporting
- Auxiliary Always-On Output (Serial port models only)
- UL Class P & Class 2 Output Driver
- Class A Noise Rating
- Complies to FCC CFR Title 47 Part 15 Class B

See product specific data pages for details.

Variants available:

SINGLE CHANNEL SERIES		WHITE TUNING SERIES		
XEL-051T (55W)	XEL-081T (75/85W)	XEL-052R	XEL-072T (55W)	XEL-082T (75/85W)

Typical Applications



sales@xenerqi.com
www.xenerqi.com

Revision No#: 004M-21-10

Dimensions & Installation

(not to scale)

CASE

Material	Painted White Steel
Unit Weight	250g ~ 270g (±5g)
Dimensions	126.5mm x 60.5mm x 30mm / 5.0” x 2.4” x 1.2”
Mounting Length	Tabs: 116mm / 4.57” | Studs: 50.8mm / 2.00”

WIRING

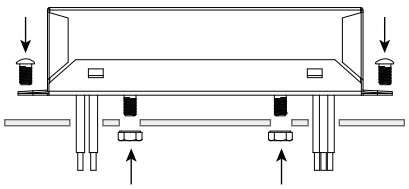
Input Wires	18AWG (UL1569) (**L**:Black, **N**:White)
Output Wires	18AWG (UL1569) (**LED+**:Red, **LED-**:Blue)
Socket	RJ11 - Not on Standard Models, contact sales.
DIM Wires	22AWG (UL1430) (**DIM+**:Purple, **DIM-**:Gray or Pink*)
Wire Lengths	152.4mm (±3mm) / 6” (±0.12”)
Strip Lengths	9.5mm (±0.5mm) / 0.375” (±0.02”)

‘XenerQi Driver Configuration & Programming Tools Manual’ available on request
**DIM- wire may be shipped in gray or pink as per NEMA-100 202X (Pink only after transition period)*

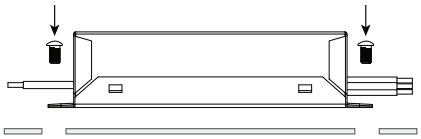
MOUNTING & INSTALLATION

Fixings 2x M6*8mm / 12-24*5/15” Fastners / 2x M4 Nuts

REU (Bottom Exit)



RBU (Side Exit)



WARNING: TO REDUCE THE RISK OF FAILURE / INJURY
DRIVER CASE MUST BE ELECTRICALLY GROUNDED.
DRIVER MUST BE INSTALLED IN LUMINAIRE IN ACCORDANCE WITH THE LOCAL CODES.
FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY AND/ OR DAMAGE TO THE SYSTEM.

DRIVER CASE BOTTOM SURFACE MUST BE MOUNTED FLUSH, SECURED AND IN CONTACT WITH FIXTURE HOUSING.

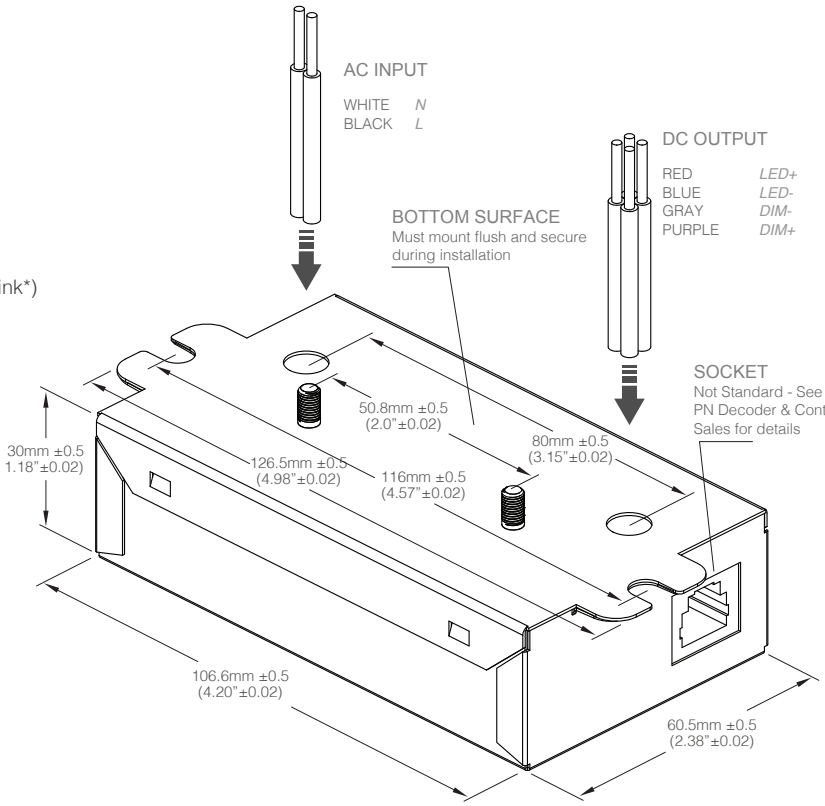
LABELS

Example Label
(For Reference Only - data will vary dependant on model numbers)

BOTTOM EXIT WIRE PACKAGE (REU)

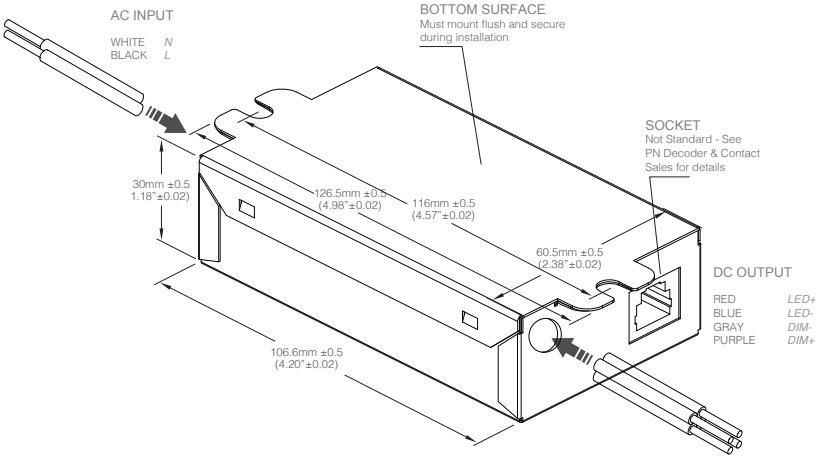
ORDER CODE: XEL-051R**E**U

Detailed 2D & 3D dimensional drawings avilable on request.



SIDE EXIT WIRE PACKAGE (RBU)

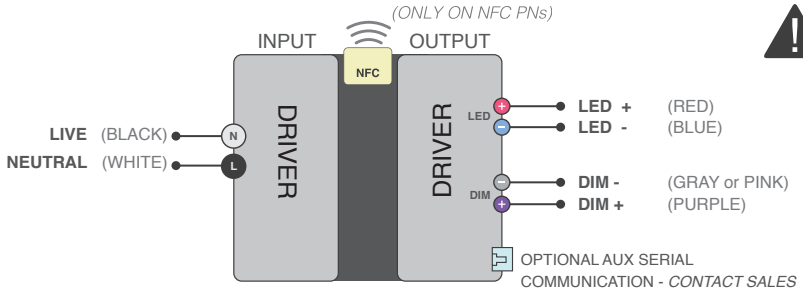
ORDER CODE: XEL-051R**B**U

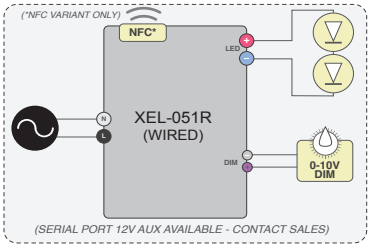


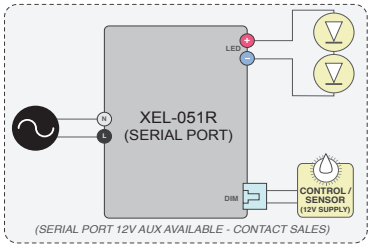
Specification Data

Output[3]	Programmable Power Range	5~55W MAX (See Available Models for variant specific data)
	Variant Power Ranges	5~12.5W (CX375D), 9.2~23W (CX600D), 12~30W (C1X05D), 22~55W (C1X40D)
	Programmable Current Range	0.11~1.40A (See Available Models for variant specific data)
	Output Voltage Range	20~51Vdc
	Line Regulation[3]	< 1.0%
	Load Regulation[3]	< 3.5%
	Turn On/Off Time	< 500ms (at full load)
	Stand-by Power	< 1.0W
Input	Voltage Range[4]	120 ~ 277Vac Nominal (108 ~ 305Vac Operational)
	Variant Max Input Power	15.6W (CX375D), 27.9W (CX600D), 36.8W (C1X05D), 65.5W (C1X40D)
	Frequency Range	47 ~ 63 Hz
	Power Factor	PFC > 0.9 at ≥ 40% of full programmed power[4]
	THD	THD < 20% at ≥ 40% of full programmed power[4]
	Typical Inrush Current (See Pg5 for Specific Model Data)	≤9.6A/245µs@120V (per ANSI test method. Compliant with NEMA410-2015) ≤22.7A/214µs@277V (per ANSI test method. Compliant with NEMA410-2015)
Programming	NFC (Wireless)	Via NFC (*with standard FEIG programming wand - Zhaga Book 24/ ISO 15963*) *(XenerQi programming software & configuration files required - contact sales)*
	Factory Set	Factory Programmed (Based on Custom User Configuration File)
Dimming[8]	Modes	DC Analog Dimming control: 0-10Vdc (1%) Sink / Source
	Source Current	100µA (Isolated)
	Compatibility	ANSI/IEC Compliant Linear curve. User Programmable Log Curve & 0-10V End Point Voltages
	Dim-to-Off (Default Setting)	Off-to-on: V > 0.85V; On-to-off: V < 0.65V
	Continuous Mode	Dim-to-off is disabled (Driver remains at lowest DIM level)
Protection	Short Circuit	Auto-restart (after fault removed)
	Over Voltage & Open Load	Vout < 60V (Class-2)
	Over Current	Inherently limited over operational range
	Over Temperature	Current foldback at hotspot greater than 85°C (shut down at <100°C)[5]
Environment	Working Temperature	-40°C ~ 55°C ambient[1] (Tc rated for 90°C)
	Operating Life	50,000 Hours (at 95% max power, Tc < 75C) (*Higher Operating Temperature Model Available - Contact Sales)*
	Working Humidity	20% ~ 90% RH non-condensing
	UL Rating	Dry / Damp location use / IP20
	Storage Temperature	-40°C ~ 85°C ambient
	Storage Humidity	10% ~ 90% RH non-condensing
	Vibration & Impact Resistance	3 ~ 50Hz 1g (for 30 minutes) / 1 g/s (Impact Resistance)
Safety & EMC	Safety Standards	UL8750, Class 2, Class P rated, NOM
	Noise Rating	Class A (Less than 24dB measured at 1 meter) [3,7]
	EMI Conduction & Radiation	Compliant with FCC CFR Title 47 Part 15 Class B (Class A @ 277V) CAN ICES (B) (A @ 277V) / NMB-005 (B) (A @ 277V)
	EMC Susceptibility	EN61000-4-3, EN61000-4-2, EN61000-4-4
	Transient Immunity	2kV/1kA Combination, 2.5kV Ringwave 30Ω Modes: L-N, L-G, N-G *For applications with higher surge protection requirements, pair with XenerQi's lighting optimized surge protectors:* 10K Surge Protection: XEL-PA10S-277 / XEL-SU10C-277 20K Surge Protection: XEL-PA20S-277 / XEL-SU20C-277

Typical Application & Wiring Diagram







WARNING: TO PREVENT DAMAGE DRIVERS ARE INTENDED TO BE PROGRAMMED WHILE DRIVER IS POWERED OFF

FEIG NFC Programmers

Ordering Codes & Available Models

ORDER CODE ('**X**' indicates type/feature selection)

XEL-051R**X**U-C**A**AAA**A**B-**X**Z**A**N**M**-A01

- **E**: Bottom Exit Wires Case; **B**: Side Exit Wires Case
- Current Rating (see model table below)
- *PLATFORM INDICATOR*
- **W**: NFC Programmable (Wireless); **F**: Factory Set
- **U**: Serial Port Socket & AUX (Contact Sales); **Z**: 0-10V Dimming

CASE OPTIONS:

BOTTOM / SIDE EXIT WIRES

XEL-051R**E** XEL-051R**B**

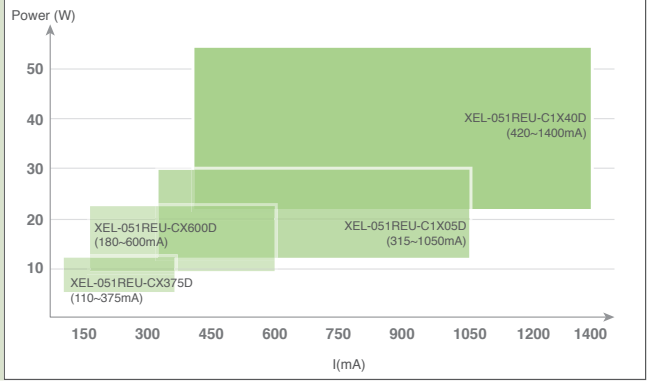
	Part Number / Ordering Codes (Replace X with case choice)	Programmable Output Current Range (mA)	Min Programmable Current (for 1% Dim)	Output Voltage Range (V)	Maximum Efficiency [6,7]	Max Output (W)
NFC Programmable Variants	XEL-051R**X**U-C1X40D-WZAN-A01*	420~1400	600	20 ~ 51	87.4%	55.0W
	XEL-051R**X**U-C1X05D-WZAN-A01*	315~1050	450	20 ~ 51	86.6%	30.0W
	XEL-051R**X**U-CX600D-WZAN-A01*	180~600	250	20 ~ 51	85.9%	23.0W
	XEL-051R**X**U-CX375D-WZAN-A01*	110~375	150	20 ~ 51	84.0%	12.5W
FACTORY Fixed Variants	XENERQI FACTORY CONFIGURED VARIANTS ARE AVAILABLE. PLEASE CONTACT SALES TO DISCUSS YOUR SPECIFIC REQUIREMENTS					

* Drivers are shipped preset to the minimum programmable current for 1% Dimming / Customized Variants available upon request. Replace 'X' with required feature alphanumeric when ordering.

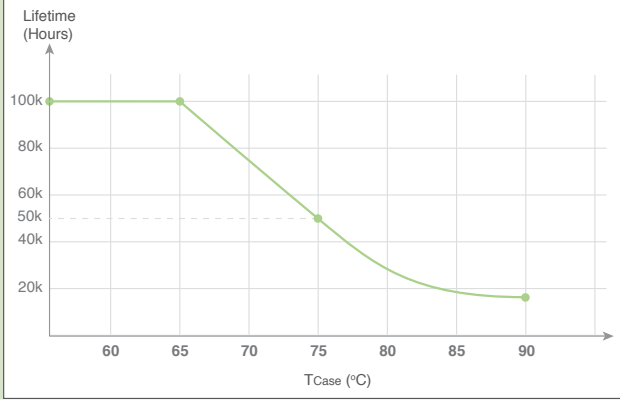
[1] Ambient is estimated. Actual temperatures determined by trigger point temperature at driver hotspot. Assumes case is correctly mounted on flat surface.
[2] Warranty refers to operation for conditions listed under "Operating Life". For specific warranty details refer to XenerQi published warranty document.
[3] Parameters guaranteed only over nominal input range.
[4] Shutdown requires power cycle to recover.
[5] Units optimized for LED load Vf as per "Optimized Vf" value in specification data.
[6] Tested under two conditions: with & without dimmer connected.
[7] Value listed is maximum or minimum and can vary based on usage conditions.
[8] Driver is designed to meet the 2019 flicker recommendations from IEEE/NEMA with an emphasis on human factors engineering. When the driver is utilized with the appropriate LED load the Luminaire is expected to meet IEEE-1789 recommendations for No-Risk. Customer must validate final system compliance.

Operation Performance-Family

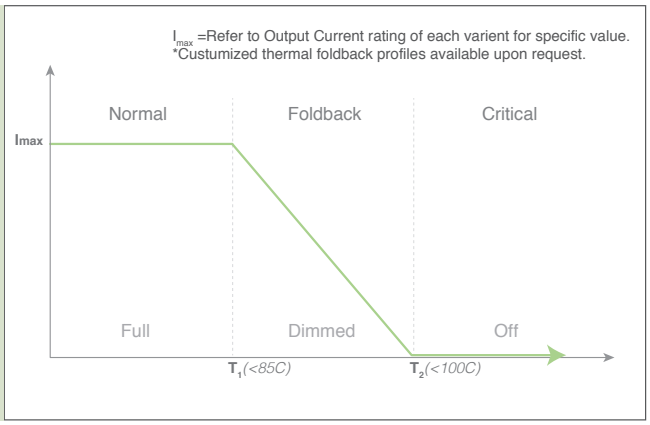
Power / Driver Output Current



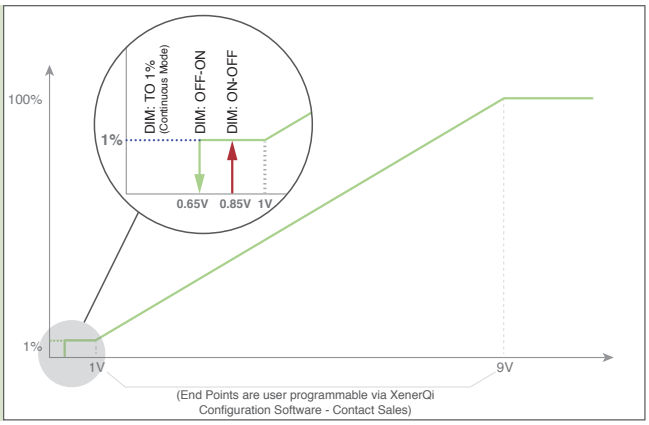
Lifetime Temperature Derating



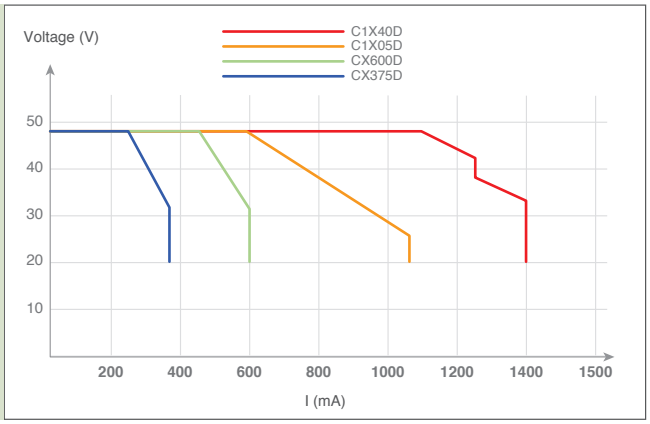
Over Temperature Foldback Protection[1]



0-10V Dimming Curve



Safe Operating Area

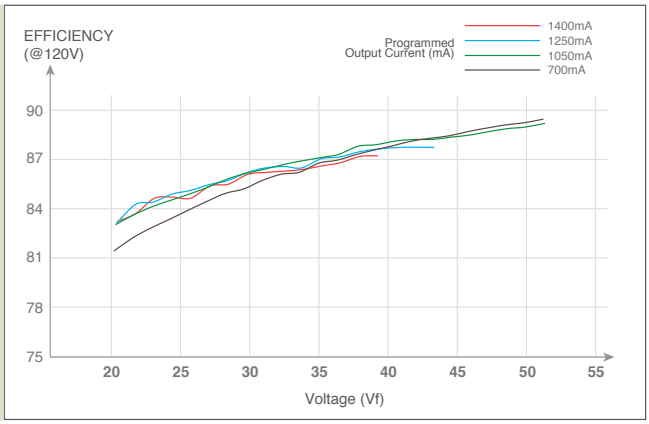


Inrush Current Data

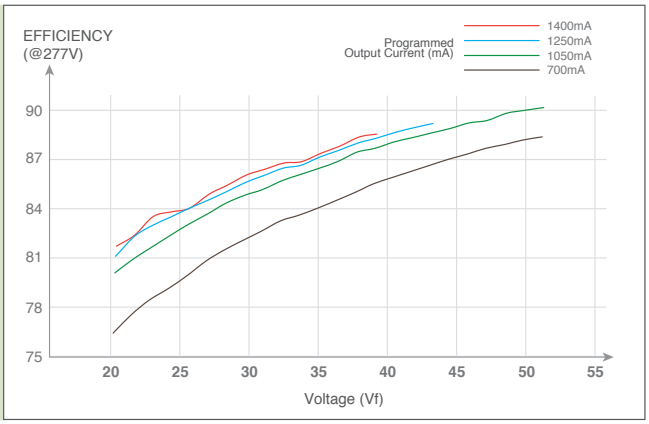
Model#	@120V	@277V
C1X40D (55W)	**≤9.6A / 116μs**	**≤22.7A / 98μs**
C1X05D (30W)	**≤9.6A / 116μs**	**≤22.7A / 98μs**
CX600D (23W)	**≤9.6A / 116μs**	**≤22.7A / 98μs**
CX375D (12.5W)	**≤9.6A / 116μs**	**≤22.7A / 98μs**

Operation Performance - C1X40D (55W)

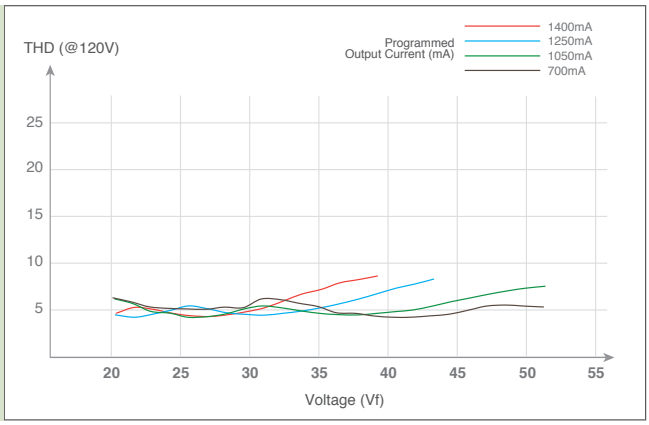
EFFICIENCY @ 120V



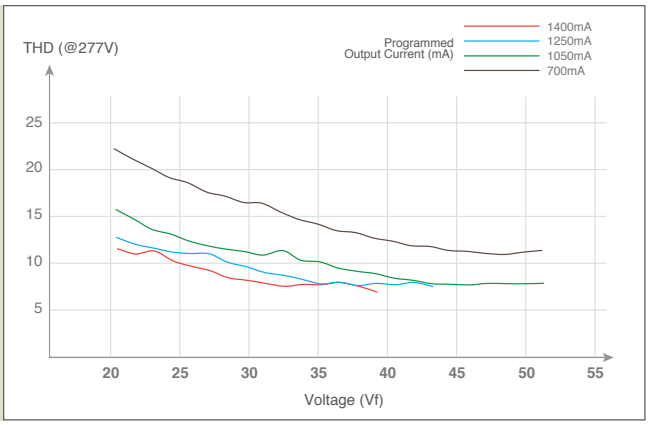
EFFICIENCY @ 277V



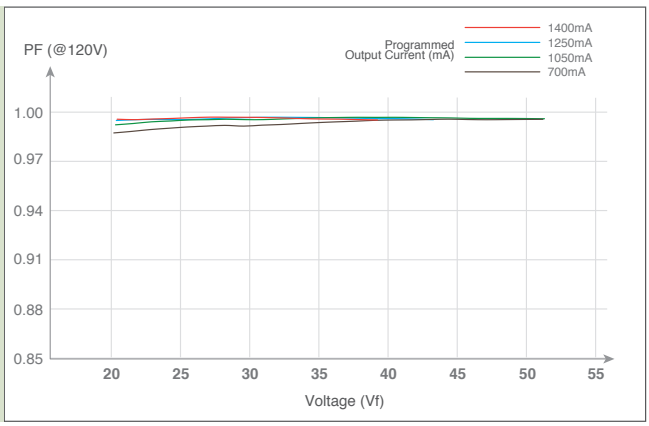
THD @ 120V



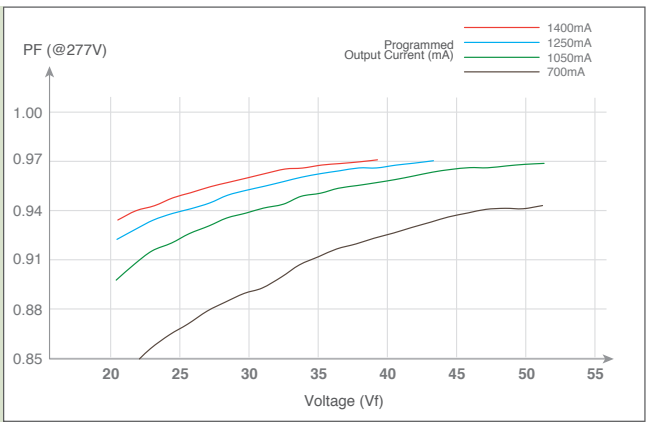
THD @ 277V



PF @ 120V

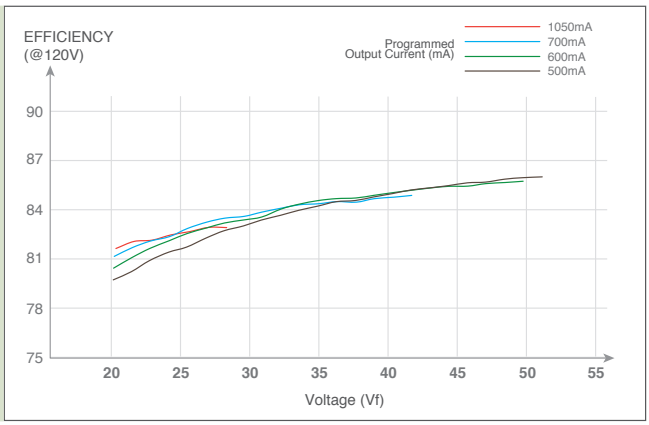


PF @ 277V

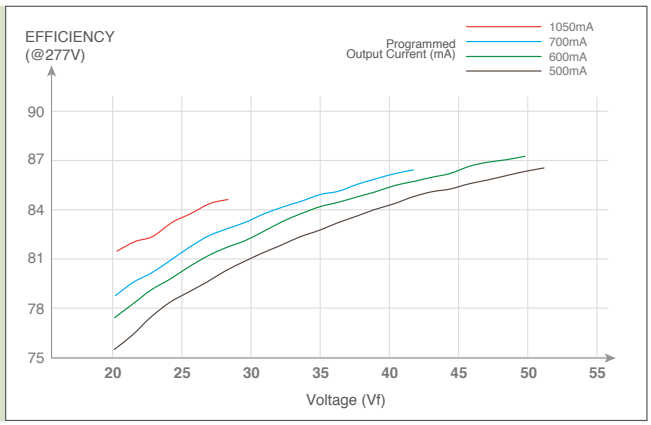


Operation Performance - C1X05D (30W)

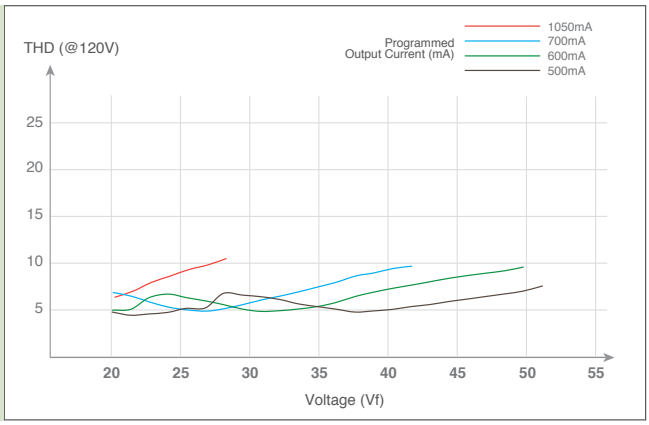
EFFICIENCY @ 120V



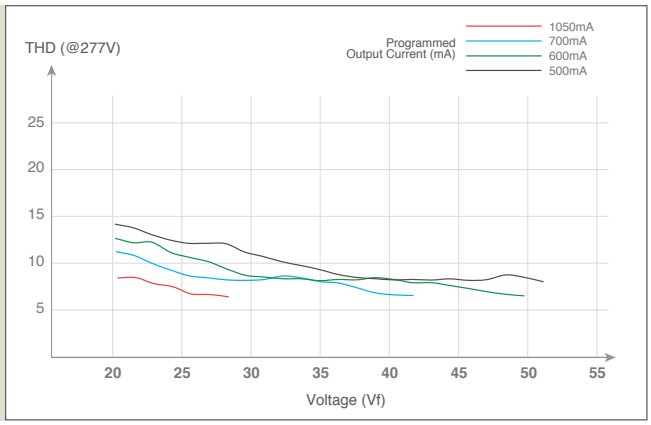
EFFICIENCY @ 277V



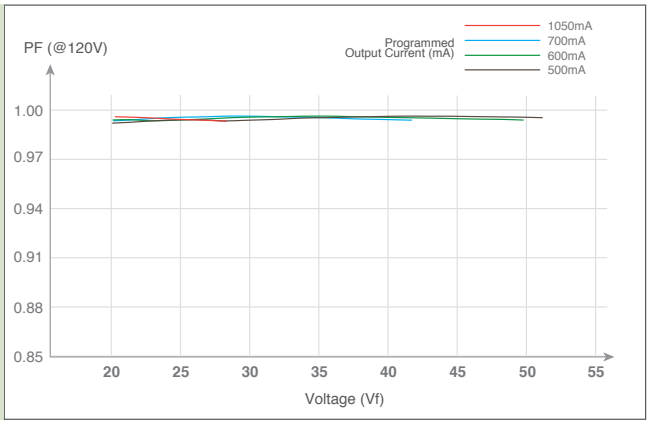
THD @ 120V



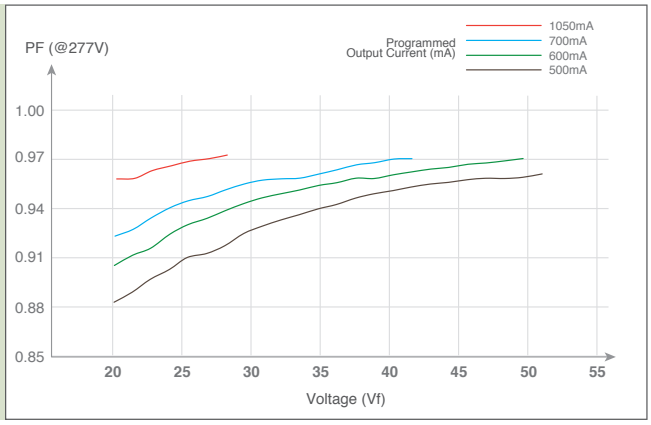
THD @ 277V



PF @ 120V

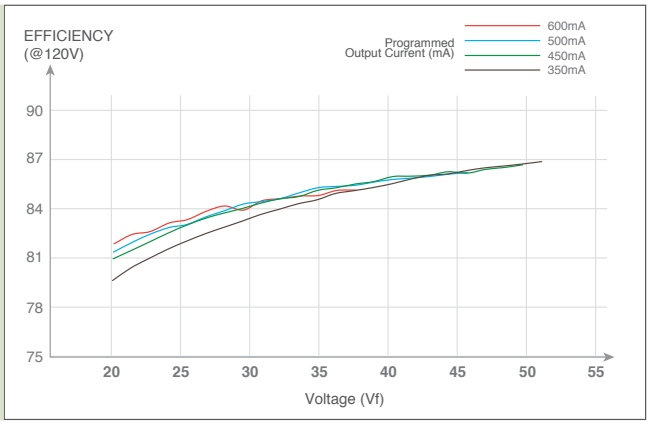


PF @ 277V

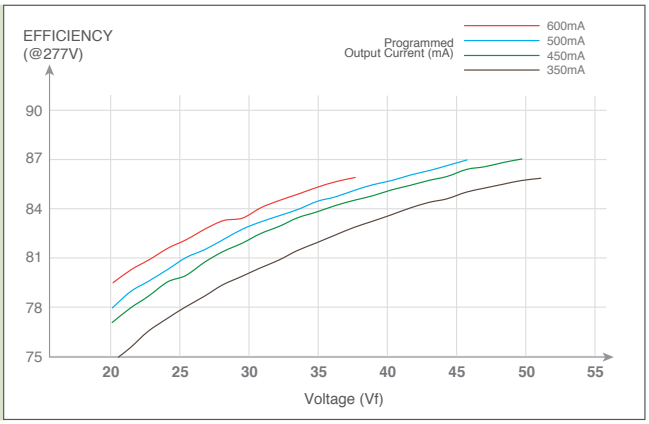


Operation Performance - CX600D (23W)

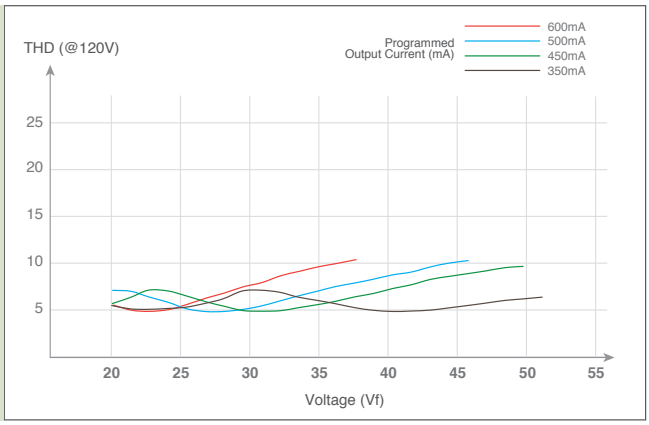
EFFICIENCY @ 120V



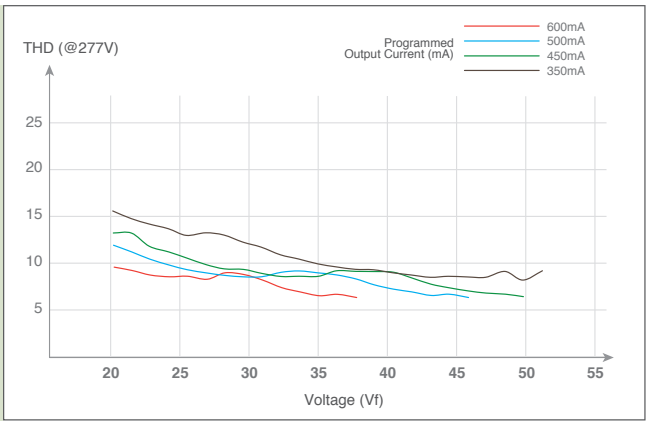
EFFICIENCY @ 277V



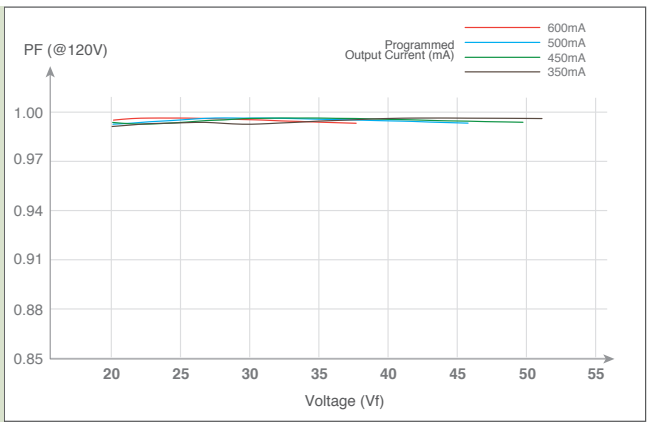
THD @ 120V



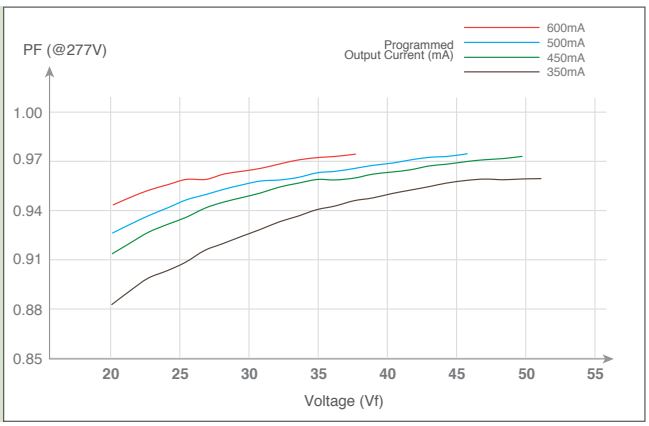
THD @ 277V



PF @ 120V

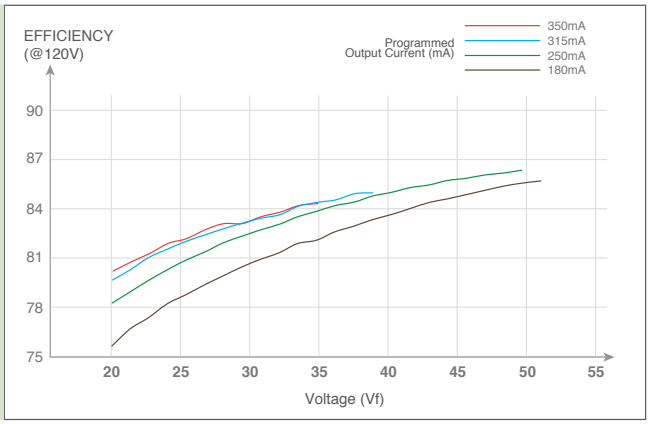


PF @ 277V

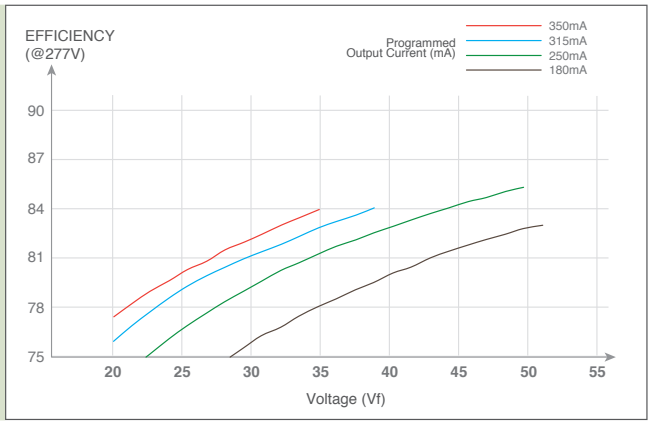


Operation Performance - CX375D (12.5W)

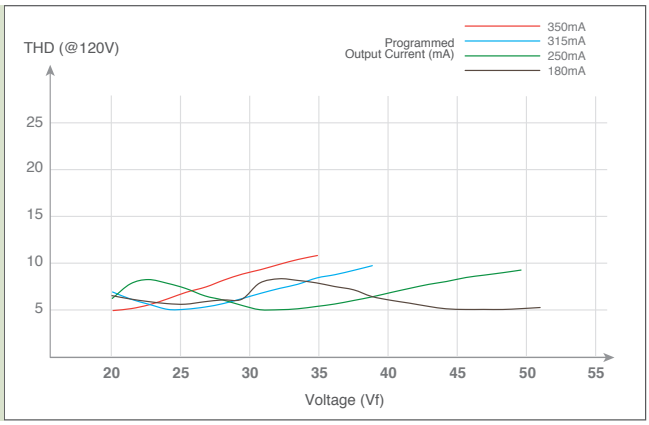
EFFICIENCY @ 120V



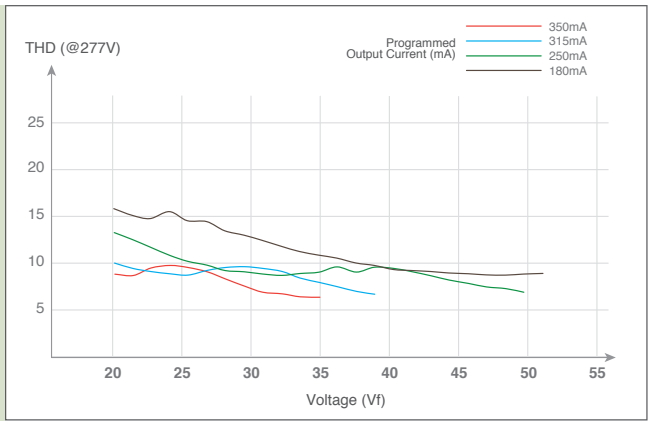
EFFICIENCY @ 277V



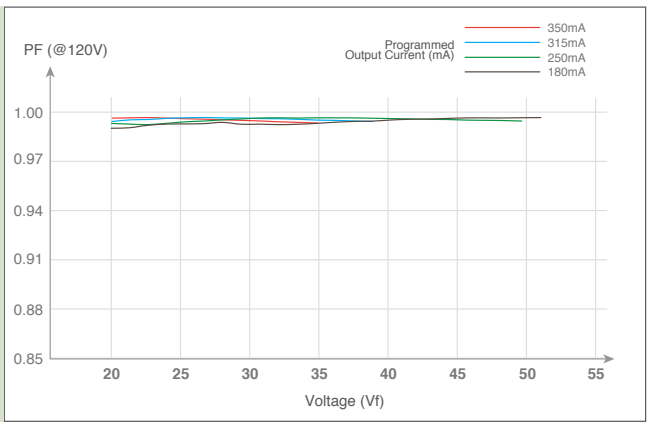
THD @ 120V



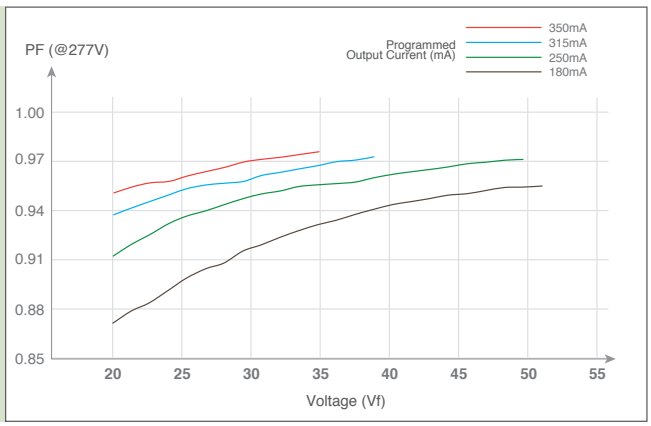
THD @ 277V



PF @ 120V



PF @ 277V



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